REMARKS

Applicant is in receipt of the Office Action mailed March 18, 2005. Claims 2, 33, and 40 have been cancelled. Claims 1, 12, 23, 32, and 39 have been amended. Claims 1, 3-9, 11-20, 22-26, 32, 34-36, 38-39, 41-43, and 45 remain pending in the case. Reconsideration of the present case is earnestly requested in light of the following remarks.

Section 102 Rejections

Claims 1-6, 8, 11-17, 19, 22-23, 25-26, 32-36, 38-43, and 45 were rejected under 35 U.S.C. 102(e) as being anticipated by US 6385337 to Klassen et al. ("Klassen"). Applicant respectfully disagrees.

As the Examiner is certainly aware, anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Amended claim 1 recites:

1. A computer-implemented method for characterizing colors of an image, wherein the image comprises a plurality of pixels, the method comprising:

for each respective pixel of at least a subset of pixels of the image, assigning values to one or more color categories based on color information of the pixel;

wherein, for each of one or more first pixels, said assigning comprises assigning values to a plurality of the color categories based on color information of the pixel, wherein, for each of the one or more first pixels, said assigning comprises assigning a percentage of the pixel to each of the plurality of color categories; and

determining information regarding the total values of pixels assigned to each of the color categories, wherein said information characterizes colors of the image.

Applicant submits that Klassen fails to teach all the features and limitations of amended claim 1. For example, the Examiner asserts that Klassen teaches "wherein, for each of the one or more first pixels, said assigning comprises assigning a percentage of the pixel to each of the plurality of color categories", citing col. 7, line 35 – column 8, line 26. However, the cited portion of Klassen specifically describes assigning a pixel to multiple bins and *incrementing the count of each bin*. In other words, contrary to the Examiner's assertion, Klassen does *not* apportion fractions of the pixel among the assigned bins, but rather adds the pixel wholly to each bin.

For example, the Examiner asserts that Klassen computes a fractional assignment of the pixel to an example bin of "((x+8)/17)". However, Applicant notes that the cited portion of Klassen actually describes the computation of bin numbers and their ranges, not fractional pixel allocation. More specifically, as Klassen describes in part of the cited portion:

> In a fuzzy histogram such as used in this invention, values are assigned to all bins within a certain radius. In one dimension, this means that all bins within a given range centered on the value of the current colour ***would have their counters incremented***. Thus if the range is +/-10, and the bin width is 16, a value of 33 would cause ***the counters for bins 2 and 3 to be incremented***, corresponding to ranges 16-31 and 32-47, while a value of 40 would cause the counters for bins 2, 3 and 4, corresponding to ranges 16-31, 32-47, and 48-63, to be incremented.
>
> In two dimensions, conceptually, a circle is drawn about the value, of the specified radius, and ***every bin that is partially overlapped by the circle would have its counter incremented***. In practice, the value to be added to the histogram has finite precision, so each of the coordinates may be separated into a bin number (representing the bin at the center of the circle), and an offset (representing the fractional offset within the center). There will only be a finite (typically small) number of unique offsets that may occur. ***For example, using 17 bins, for the coordinate x,***

> ***the bin number is floor[(x+8)/17] (where floor(x) is the greatest integer not greater than x) and the offset is x-17 floor[(x+8)/17]. For 8 bit integers, there are only 15 possible values that the offset can take on in this example. If the number of bins is a power of two, the bin number is given by the high order bits of x+binwidth/2, while the offset is the low order bits of the same expression.*** Because there is a small set of potential offsets, a list of neighbors may be pre-computed for each offset. In this way, possible to increment the center bin and all of the affected neighbors (those within a radius r of the input value) without computing any distances at the time the histogram is being built.

Per the above text, Applicant submits that the computation cited by the Examiner --((x+8)/17)—is not a fractional partition of the pixel value, but rather is a computation for determining which (central or initial) bin to assign a pixel to. Additionally, as the cited portion of the text also states:

> ***Thus a fuzzy histogram is built by incrementing counters for not only the bin containing each new value, but also all bins within a given radius of the value.*** The key advantage of this approach may be seen in FIGS. 6A and 6B, wherein a set of (two dimensional values have been plotted, along with histogram bin boundaries. In FIG. 6A (labeled prior art), the histogram counts show only the values in the respective bins. In FIG. 6B (an embodiment of the present invention), the counts are as computed for a radius of 1 bin width. The largest cluster is identified as being in the lower right of the figure, rather than in the upper left. The present invention attempts to find the largest cluster rapidly. The center of this largest cluster is used as the value for one color, and the average of the pixels that whose colors do not fall into that cluster is used as the other color.

Figures 6A and 6B further illustrate this point. For example, note that in Figure 6A (radius of 0 bin width), each bin has an integer pixel count equal to the number of pixels that fall directly in that bin, while in Figure 6B (radius of 1 bin width), each bin's integer pixel count includes the pixels in the central bin, as well as *all* those in the immediate neighborhood of adjacent bins. In other words, there is no fractional, proportional, or percentage allocation of a single pixel over multiple bins. Instead, each pixel is counted wholly for each bin within the radius.

Applicant respectfully submits that Klassen nowhere teaches or suggests the limitation "for each of one or more first pixels, said assigning comprises assigning values to *a plurality of the color categories* based on color information of the pixel, wherein, for each of the one or more first pixels, said assigning comprises *assigning a percentage of the pixel to each of the plurality of color categories*". Thus, for at least the reasons provided above, Applicant submits that Klassen fails to teach all the features and limitations of claim 1, and so claim 1 and those claims dependent therefrom are patentably distinct and non-obvious over Klassen, and are thus allowable.

Claims 12, 32, and 39 include this same limitation, and so the above arguments apply with equal force to these claims. Thus, for at least the reasons provided above, Applicant submits that claims 12, 32, and 39, and those claims respectively dependent therefrom, are patentably distinct and non-obvious over Klassen, and are thus allowable.

Removal of the 102 rejection of claims 1-6, 8, 11-17, 19, 22-23, 25-26, 32-36, 38-43, and 45 is respectfully requested.

Section 103 Rejections

Claims 7, 9, 18, 20, and 24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Klassen and Official Notice. Applicant respectfully disagrees.

First, Applicant notes that if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Since the independent claims have been shown above to be patentably distinct and non-obvious, claims 7 and 9, dependent from claim 1, claims 18 and 20, dependent from claim 12, claim 24, dependent from claim 23, are thus similarly patentably distinct and non-obvious for at least the reasons presented above, and are thus allowable.

Additionally, regarding claims 9 and 18, Applicant notes that since Klassen does not disclose fractional allocation of pixels among bins, the fuzzy logic rules of these claims are neither taught nor accommodated by Klassen, due to Klassen's "whole pixel"

inclusion in multiple bins approach. In other words, Klassen actually *teaches away* from these claims, and so does not qualify as proper prior art.

Thus, for at least the reasons provided, Applicant submits that claims 7, 9, 18, 20, and 24 are patentably distinct and non-obvious over the cited art, and are thus allowable.

Removal of the 103 rejection of claims 7, 9, 18, 20, and 24 is respectfully requested.

Allowed Subject Matter

The Office Action stated that claim 26 was objected to as being dependent upon a rejected base claim, but indicated that this claim would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant appreciates the allowed subject matter, but believes that the claims as currently written are allowable.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

CONCLUSION

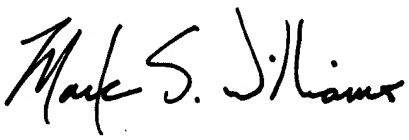
Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-46400/JCH.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

Respectfully submitted,



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